Abstract

A flux assisted solid phase epitaxy that can make a thin film having a crystalline perfection comparable with that of a bulk crystal and at a reduced cost is provided in which an amorphous film of a mixture of an objective substance to be grown epitaxially and a flux of a substance producing a eutectic with the objective substance but not producing any compound therewith is deposited on a substrate at a temperature less than a eutectic point of the substances, and the substrate is heat-treated at a temperature not less than the eutectic point of the objective and flux substances. A solid phase reaction, namely solid phase diffusion causes the objective and flux substances to be mixed together to form a liquid phase in their eutectic state from which the objective substance precipitates and epitaxially grows on the substrate.